

Serial No. 10/674,885

Page 2 of 11

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

- 1 1. (previously presented) A method for establishing an Internet Protocol (IP)-based
2 Virtual Private Network (VPN) for voice data, comprising the steps of:
 - 3 (a) determining the relative location of a terminating point with respect to an
4 originating point of a new communication containing the voice data;
 - 5 (b) determining one or more IP addresses to propagate the communication from
6 the originating point to the terminating point;
 - 7 (c) creating a VPN identifier in the voice data;
 - 8 (d) passing the new communication to the terminating point; and
 - 9 (e) removing the VPN identifier from the voice data.
- 1 2. (original) The method of claim 1 wherein the VPN identifier is an extra field
2 added to an encapsulation coding scheme of the voice data.
- 1 3. (original) The method of claim 2 wherein the VPN identifier is an MPLS label.
- 1 4. (original) The method of claim 1 wherein the VPN identifier is a VPN identifier
2 as specified in IETF RFC.2685.
- 1 5. (previously presented) The method of claims 3 wherein the VPN identifier
2 identifies a location selected from the group consisting of the originating point,
3 terminating point or an intermediate location therebetween.
- 1 6. (original) The method of claim 1 wherein step (a) further comprises collecting and
2 analyzing dialed digits of the terminating point to determine whether PSTN gateway or
3 inter-VPN gateway functions process the new communication.

1 7. (previously presented) The method of claim 1 wherein IP address of the
2 originating point is from a subscriber's IP address space.

1 8. (original) The method of claim 1 wherein IP address of the terminating point is
2 from a subscriber's IP address space.

1 9. (original) The method of claim 6 wherein the PSTN gateway function further
2 comprising assigning an IP address from a subscriber's IP address space to represent a
3 phone from a PSTN.

1 10. (original) The method of claim 6 wherein the inter-VPN gateway function further
2 comprises assigning an IP address from IP address space of the terminating point to
3 represent the originating point, when communicating with the terminating point.

1 11. (original) The method of claim 6 wherein the inter-VPN gateway function further
2 comprises assigning an IP address from IP address space of the originating point to
3 represent the terminating point, when communicating with the origination point.

1 12. (original) The method of claim 10 wherein the inter-VPN gateway function
2 translates the IP address of the originating point to the assigned IP address when
3 forwarding voice data to the terminating point.

1 13. (previously presented) The method of claim 11 wherein the inter-VPN gateway
2 function translates the IP address of the terminating point to the assigned IP address when
3 forwarding voice data to the originating point.

1 14. (original) The method of claim 6 wherein the dialed digits are a private number
2 from the subscriber's own private numbering scheme.

1 15. (original) The method of claim 6 wherein the dialed digits are a public telephone
2 number.

1 16. (currently amended) An apparatus for IP-based VPN communications comprising:
2 at least one soft-switch which processes call signaling messages from subscribers;
3 at least one packet switch having an interface to said at least one soft-switch, said
4 packet switch having a VPN processing module for establishing voice calls on a selection
5 of originating and terminating IP addresses passed to the at least one soft-switch and at
6 least one packet switch;
7 wherein one of said at least one soft-switch instructs one of said at least one
8 packet switch to insert VPN identifiers into voice data and one of said at least one soft-
9 switch instructs one of said at least one packet switch to remove VPN identifiers from
10 voice data.

1 17. (original) The apparatus of claim 16 wherein said at least one soft-switch is an
2 ingress soft-switch and an egress soft-switch.

1 18. (original) The apparatus of claim 16 wherein said at least one packet switch is an
2 ingress packet switch and an egress packet switch.

1 19. (currently amended) The apparatus of claim 16 wherein ~~the~~ said at least one soft-
2 switch instructs ~~the~~ said at least one packet switch to perform call establishing functions
3 selected from the group consisting of:
4 creating call terminations and contexts;
5 attaching said call terminations to said context;
6 cross-connecting call terminations in a context;
7 ~~inserting and removing VPN identifiers;~~ and
8 mapping call terminations to connections.